

THE OCTOBER CRASH: EXAMINING THE FLOTSAM

Remarks by Thomas C. Melzer
Estate Planning Council of St. Louis
March 7, 1988

According to Mark Twain, "There are two times in a man's life when he shouldn't speculate: when he can't afford it and when he can." If nothing else, last October's crash in stock prices ought to have driven this lesson home. Now I do not mean to suggest that you, as estate planners, engage in speculative activities. Nonetheless, I am sure that you have concerns about what happened in the stock market. The fall-out has even extended as far as the Federal Reserve, whose primary responsibility is the conduct of U.S. monetary policy and not the functioning of the stock market.

Our concern is motivated by two factors: First, we were called on to supply additional liquidity to the financial system immediately following the crash. This, in itself, is not surprising; but there continue to be concerns about the interrelationship between cash and futures market settlement mechanisms and the potential for "gridlock" in paying for transactions. Second, we are being recommended as a potential "super regulatory authority" for financial markets. Because the stock markets are so important, both to you as estate planners and to the nation in general, I am happy to have this opportunity to discuss the recent market crash and some of the reforms that are currently being studied.

A number of more-or-less official reports have been released recently on the stock market crash. Generally speaking, the reports do not attempt to identify why stock prices fell initially. And this failure to identify the reason for the market's downturn is understandable. After all, we are still debating the causes of the 1929 market crash. Instead, these studies focus on the severity of the market decline that occurred on October 16 and 19 and investigate the tumultuous trading activity that occurred then and in subsequent weeks.

The reports agree on one thing: virtually all of them suggest that the inability of the New York Stock Exchange ("NYSE") to process the volume of trades quickly contributed significantly to the market's turmoil. On the other hand, these reports disagree totally about the reasons for the severity of the market decline on October 16 and 19. Unfortunately, this substantive disparity of opinion has not been widely reported in the press or elsewhere.

What has been publicized is the "cascade theory" endorsed by John Phelan, who is chairman of the NYSE; the Presidential Task Force on Market Mechanisms (also known as the Brady Commission); and the General Accounting Office. Although three other reports--those by the Securities and Exchange Commission, the Commodity Futures Trading Commission and the Chicago Mercantile Exchange--do not agree with this view, the cascade theory of the crash is currently the most widely-discussed explanation of what happened last October.

Now, what is this cascade theory and who are the culprits involved? The cascade theory identifies futures market traders as the culprits; it "explains" that "mechanical, price-insensitive selling" by institutions using portfolio insurance strategies contributed significantly to the break in stock prices on October 16. This selling occurred initially and largely in the futures market; it was then transmitted to the cash market by index arbitrage. The resulting decline in cash prices induced even further selling in the futures market by portfolio insurers, which kicked off another selling wave--and so on, and so on. As a result, stock and futures prices proceeded to "cascade" downward.

You can immediately see that our knowledge of market crashes has advanced considerably in the 58 years since the 1929 crash. Back in 1929, "Black Tuesday" was "explained" by a downward price "spiral." Today, we know that 1987's "Bloody Monday" was caused by a downward price "cascade."

For people who believe this explanation, the way to prevent market crashes is simple: eliminate the link between the futures and cash markets. Because portfolio insurance and index arbitrage--both forms of program trading--are the strongest links between the two markets, some people have argued that these activities should be restricted. In fact, the NYSE has already done this, and various proposals currently under consideration would further restrict these trading strategies.

To properly appreciate what portfolio insurance and index arbitrage trading do, a brief explanation of them is necessary. Portfolio insurance is simply a relatively cheap method of exercising a stop-loss order for a large portfolio of stocks. The objective of portfolio insurance is simple; it is designed to limit the decrease in the portfolio's value associated with market declines. It does this by reducing the equity exposure of portfolios when there are significant declines in stock market values.

Rather than reducing equity exposures by selling stock, however, the initial transaction entails short sales of stock index futures. The futures market is used because trades can be made quickly at low transaction costs. In the longer run, the portfolio is adjusted through cash market sales; the futures positions are then liquidated. Of course, no one can be sure that sales of any instrument, including futures, can be made at the desired price in a declining market; there is simply not an infinite amount of liquidity. Some portfolio insurers, however, may have incorrectly assumed that there would be.

Index arbitrage is a strategy based on simultaneous trades of stock index futures and a corresponding basket of stocks in the cash market. This trading strategy attempts to profit from small and short-lived price discrepancies for the same group of stocks in the cash and futures markets. Cash and futures prices for the same stock (or group of stocks) typically differ. This difference--called the basis--reflects the net cost of carrying the stocks over the period covered by the futures contract. These costs, in turn, depend on the relevant interest rate and

the dividends the stocks are expected to pay during the interval. Occasionally, the observed basis may diverge from the cost of carry. When this occurs, profits can be made if simultaneous trades can be placed in the two markets--purchasing the relatively low-priced instrument and selling the relatively high-priced one. As a result of such arbitrage, of course, this "gap" disappears; the basis returns to the cost of carry.

As you may know, index arbitrage has been severely restricted since the crash. On October 19, this trading strategy was limited after 1:30 p.m. by the backlog of orders on the NYSE's Designated Order Turnaround ("DOT") automated execution system. As a result, arbitrageurs were unable to trade simultaneously in the cash and futures markets; moreover, it was impossible for them to accurately assess the cash price of the relevant basket of stocks. Since October 19, the NYSE has imposed formal restrictions on use of its DOT System by index arbitrageurs and other program traders.

In addition, proponents of the cascade theory have suggested reforms that would restrict trading in stock index futures for any purpose. These proposed restrictions include limits on price swings in index futures contracts and associated trading halts, limits on short positions and higher margin requirements.

Before being swept away by the cascade theory and its prescriptions for fixing the stock markets, it is worthwhile to consider a few of the benefits of stock index futures contracts. First, index futures increase the liquidity of stock positions. They do so by reducing transactions

costs and by allowing stockholders to hedge their stock portfolios. Transaction costs are considerably lower in the futures market than in the cash market. For example, the cost of trading one S&P 500 futures contract is about \$500 less than trading an equivalent basket of stocks in the cash market. It is precisely because these transaction costs are so much lower that portfolio insurers, for example, chose to liquidate portions of their portfolios by selling futures instead of selling their stocks in the cash market.

Index futures also enable stockholders to hedge against unanticipated changes in stock values. Hedging shifts the risk of price changes to someone who is willing to bear it. In short, it is a relatively low-cost method of insuring the value of a stock portfolio.

In addition to enhancing liquidity, futures markets reveal valuable information. The spread (or basis) between the price of a stock index futures contract and the cash price of the corresponding basket of stocks is the market's estimate of the cost of carrying stocks from the present to the maturity date of the futures contract. In other words, the spread is the market's forecast of the change in the value of the basket of stocks between these two dates. This valuable information, which currently you can obtain for the price of a newspaper, would be expensive to produce in the absence of closely-linked cash and futures markets.

Now it is clear that restricting index arbitrage will reduce these benefits. Thus, the key issue is whether these restrictions would make the next crash less severe than the last one. While the evidence is

incomplete, some preliminary observations cast considerable doubt on this claim.

The S&P 500 futures contract, which represents 75 percent of the U.S. stock index futures market, had only about \$20 billion in "face value" of open positions on October 15. In comparison, shares listed on the NYSE totaled \$2.6 trillion on the same day. It seems unlikely that futures positions worth less than one percent of total stock market value could have contributed significantly to the roughly 20 percent fall in stock values on October 19.

What's more, index futures did not exist in foreign markets; yet these collapsed about as much as or more than the U.S. market. For example, between October 16 and 23, the U.K. market declined by 22 percent, the German and Japanese markets by 12 percent, the French market by 10 percent and the U.S. market by 13 percent.

Index futures did not even exist in 1907 and 1929, yet these market breaks were as significant in percentage terms as the 1987 break.

Index arbitrage stopped at 1:30 p.m. on October 19, yet the Dow sunk by more than 300 points afterwards. Furthermore, though index arbitrage was severely restricted in the subsequent weeks, this did not prevent a further significant break in stock prices on October 26.

Finally, roughly 90 percent of the trades made on the NYSE on October 19 were not associated with index arbitrage in any way, and less

than 2.5 percent of the value of publicly traded stocks were under portfolio insurance at the time of the October break in stock prices.

In conclusion, evidence, while sketchy and anecdotal, does not support the potential usefulness of the reforms suggested by proponents of the cascade theory. Of course, it would not be the first time that suggested regulations have failed. Wesley Clair Mitchell, a noted student of business cycles, once said:

"By a combination of various agencies such as public regulation of the prospectuses of new companies, legislation supported by efficient administration against fraudulent promotion, more rigid requirements on the part of stock exchanges concerning the securities admitted to official lists, more efficient agencies for giving investors information, and more conservative policy on the part of banks toward speculative booms, we have learned to avoid certain of the rashest errors committed by earlier generations."

At first blush, this sounds like a summary of the reforms following "Black Tuesday" in 1929. Actually, Mitchell wrote this in 1913 about the legislative and regulatory changes instituted after the Panic of 1907.

An even more amusing comment about our currently proposed regulations comes from London; a recent report by the London Stock Exchange advocates the adoption of index arbitrage. Their study concludes that "the existence of wide pricing anomalies between cash and derivative markets [that developed during the crash] demonstrates the

need for the London market to encourage techniques, such as index arbitrage, which help provide convergence of these markets."

It is troubling that suggested reforms for U.S. equity markets to restrict or ban index arbitrage could very easily build permanent pricing anomalies into our capital markets. Stock prices, like all asset prices, depend upon expectations about future events and circumstances, however little this may be justified by subsequent realizations. In the words of Irving Fisher, "Our present acts must be controlled by the future, not as it actually is, but as it appears to us through the veil of chance."

People are not omniscient. On rare occasions, they guess wrong en masse with the result that significant breaks in stock prices (up as well as down) occur when the mistake is realized. No amount of regulation can prevent this. I am concerned that some of the suggested regulatory changes could actually increase the frequency of these mistakes by making the job of predicting the future even more difficult.